REMARKS

The Examiner is thanked for the careful consideration of the present application.

This Amendment is in response to the Office Action dated October 3, 2008 ("OA"). In the Office Action, claims 1-27 were rejected under 35 U.S.C. § 103. By this Amendment, claim 1 is amended. Currently pending claims 1-27 are believed allowable, with claims 1, 6, 11, 16, 17, 21 and 24 being independent claims.

CLAIM REJECTIONS UNDER 35 USC §103:

Claim 1

Claim 1 is rejected as allegedly obvious under 35 U.S.C. §103 over U.S. Patent No. 6,567,776 ("Chang") in view of U.S. Patent Application No. 20010010039 ("Yang").

As the Examiner correctly notes, Chang does not disclose creating a gender-independent speech recognition model based on the first set of recorded phonemes training data and the second set of recorded phonemes training data if the difference in model information is insignificant.

The Examiner also correctly recognizes that Yang discloses a speech recognition method and apparatus for Chinese speech recognition. As the Examiner notes, Yang states, at paragraph [0035],

> Our apparatus begins with a user creating a speech signal to accomplish a given task. In the second step, the spoken output is first recognized in that the speech signal is decoded into a series of phonemes that are meaningful according to the phoneme templates. The acoustic analysis portion 30 analyses speech inputs and the extracted LPC

(Linear Predictive Coding) cepstrum coefficients and delta power. The extracted parameters are matched with many kinds of phoneme templates, and static phoneme similarity and the first order regression coefficients of phoneme similarity are calculated in the similarity calculation portion 40. After that, the time sequence of those number of phoneme templates to define a dimensional similarity coefficient vectors and regression coefficient vectors can be obtained. In the similarity calculation portion 40, mahalanobis' distance algorithm is employed for distance measure, where covariance matrixes for all of the phonemes are assumed to be the same. The meaning of the recognized words is obtained by the post processor that uses a dynamic programming to match inputted word with the real word and the word having been previously recognized by phoneme similarity calculation. Consequently, the post processing make a decision according to the previous phoneme result that reduces the complexity of all the recognition model. Finally, the recognition system responds to the user in the form of a voice output, or equivalently, in the form of the requested action being performed, with the user being prompted for more input.

The Applicants submit that there is no discussion in the cited paragraph of creating a gender-independent speech recognition model based on a male and female set of recorded phonemes training data if the difference in model information is insignificant. Thus, this passage, as well as the rest of Yang do not teach or suggest creating a gender-independent speech recognition model based on the female set of recorded phonemes training data and the male set of recorded phonemes training data if the difference in model information is insignificant.

Moreover, Chang's invention relies on clustering speakers according to gender. See Chang, col. 4, ll. 66 - col. 6, ll. 12. If the, *arguendo*, Yang did disclose creating a gender-independent speech recognition model, the proposed combination fails because combining the teachings of Chang with the teachings of Yang would change the principle of operation of the

Chang invention.   As a result, the Examiner would fail to meet the standard outlined in MPEP 2143.01 § VI that states, "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious."

For at least these reasons, it is respectfully submitted that claim 1 is patentable in view of Chang and Yang.   Thus, claim 1 is believed allowable and indication of such allowance is earnestly requested.

Claims 2-5

Claims 2-5 and further limit claim 1.   Since claim 1 is believed allowable over the cited documents, claims 2-5 are also believed allowable for at least the same reasons as claim 1.

Claim 6

Claim 6 is rejected as allegedly obvious under 35 U.S.C. §103 over Chang in view of Yang.   As the Examiner correctly notes, Chang does not disclose creating a gender-independent speech recognition model based on the first set of recorded phonemes training data and the second set of recorded phonemes training data if the difference in model information is insignificant.

The Examiner also correctly recognizes that Yang discloses a speech recognition method and apparatus for Chinese speech recognition.   As the Examiner notes, Yang states, at paragraph [0035],

> Our apparatus begins with a user creating a speech signal to accomplish a given task. In the second step, the spoken output is first recognized in that the speech signal is decoded into a series of phonemes that are meaningful

according to the phoneme templates. The acoustic analysis portion 30 analyses speech inputs and the extracted LPC (Linear Predictive Coding) cepstrum coefficients and delta power. The extracted parameters are matched with many kinds of phoneme templates, and static phoneme similarity and the first order regression coefficients of phoneme similarity are calculated in the similarity calculation portion 40. After that, the time sequence of those number of phoneme templates to define a dimensional similarity coefficient vectors and regression coefficient vectors can be obtained. In the similarity calculation portion 40, mahalanobis' distance algorithm is employed for distance measure, where covariance matrixes for all of the phonemes are assumed to be the same. The meaning of the recognized words is obtained by the post processor that uses a dynamic programming to match inputted word with the real word and the word having been previously recognized by phoneme similarity calculation. Consequently, the post processing make a decision according to the previous phoneme result that reduces the complexity of all the recognition model. Finally, the recognition system responds to the user in the form of a voice output, or equivalently, in the form of the requested action being performed, with the user being prompted for more input.

The Applicants submit that there is no discussion in the cited paragraph of creating a gender-independent speech recognition model <u>based on a first and second set of recorded phonemes training data if the difference in model information is insignificant</u>. Thus, this passage, as well as the rest of Yang do not teach or suggest creating a gender-independent speech recognition model based on the first set of recorded phonemes training data and the second set of recorded phonemes training data if the difference in model information is insignificant.

Moreover, Chang's invention relies on clustering speakers according to gender. See Chang, col. 4, ll. 66 - col. 6, ll. 12. If the, *arguendo*, Yang did disclose creating a gender-independent speech recognition model, the proposed combination fails because combining the teachings of Chang with the

teachings of Yang would change the principle of operation of the Chang invention.   As a result, the Examiner would fail to meet the standard outlined in MPEP 2143.01 § VI that states, "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious."

For at least these reasons, it is respectfully submitted that claim 6 is patentable in view of Chang and Yang.   Thus, claim 6 is believed allowable and indication of such allowance is earnestly requested.

Claims 7-10

Claims 7-10 and further limit claim 6.   Since claim 6 is believed allowable over the cited documents, claims 7-10 are also believed allowable for at least the same reasons as claim 6.

Claims 11 and 16

Claims 11 and 16 were rejected for the same reasons as claim 6.   Thus, claims 11 and 16 are believed allowable for at least the same reasons as claim 6, as discussed above.

Claims 12-15

Claims 12-15 and further limit claim 11.   Since claim 11 is believed allowable over the cited documents, claims 12-15 are also believed allowable for at least the same reasons as claim 11.

Claim 17

Claim 17 is rejected as allegedly obvious under 35 U.S.C.
§103 over U.S. Patent Application No. 20030231775 ("Wark") in
view of Chang and Yang.

As the Examiner correctly notes, neither Wark nor Chang
disclose a plurality of data classes that include a female
speech recognition model based on recorded phonemes originating
from plurality of female speakers, a male speech recognition
model based on recorded phonemes originating from plurality of
male speakers, and a gender-independent speech recognition model
based on recorded phonemes originating from plurality of both
female and male speakers having insignificant differences in
information.

The Examiner also correctly recognizes that Yang discloses
a speech recognition method and apparatus for Chinese speech
recognition. As the Examiner notes, Yang states, at paragraph
[0035],

> Our apparatus begins with a user creating a speech signal
> to accomplish a given task. In the second step, the spoken
> output is first recognized in that the speech signal is
> decoded into a series of phonemes that are meaningful
> according to the phoneme templates. The acoustic analysis
> portion 30 analyses speech inputs and the extracted LPC
> (Linear Predictive Coding) cepstrum coefficients and delta
> power. The extracted parameters are matched with many kinds
> of phoneme templates, and static phoneme similarity and the
> first order regression coefficients of phoneme similarity
> are calculated in the similarity calculation portion 40.
> After that, the time sequence of those number of phoneme
> templates to define a dimensional similarity coefficient
> vectors and regression coefficient vectors can be obtained.
> In the similarity calculation portion 40, mahalanobis'
> distance algorithm is employed for distance measure, where
> covariance matrixes for all of the phonemes are assumed to
> be the same. The meaning of the recognized words is
> obtained by the post processor that uses a dynamic

programming to match inputted word with the real word and the word having been previously recognized by phoneme similarity calculation. Consequently, the post processing make a decision according to the previous phoneme result that reduces the complexity of all the recognition model. Finally, the recognition system responds to the user in the form of a voice output, or equivalently, in the form of the requested action being performed, with the user being prompted for more input.

The Applicants submit that there is no discussion in the cited paragraph of creating a gender-independent speech recognition model <u>based on a male and female set of recorded phonemes training data if the difference in model information is insignificant</u>. Thus, this passage, as well as the rest of Yang do not teach or suggest creating a gender-independent speech recognition model based on the female set of recorded phonemes training data and the male set of recorded phonemes training data if the difference in model information is insignificant.

Moreover, Chang's invention relies on clustering speakers according to gender. See Chang, col. 4, ll. 66 - col. 6, ll. 12. If the, *arguendo*, Yang did disclose creating a gender-independent speech recognition model, the proposed combination fails because combining the teachings of Chang with the teachings of Yang would change the principle of operation of the Chang invention. As a result, the Examiner would fail to meet the standard outlined in MPEP 2143.01 § VI that states, "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious."

For at least these reasons, it is respectfully submitted that claim 17 is patentable in view of Wark, Chang and Yang.

Thus, claim 17 is believed allowable and indication of such allowance is earnestly requested.

Claims 18-20

Claims 18-20 further limit claim 17. Since claim 17 is believed allowable over the cited documents, claims 18-20 are also believed allowable for at least the same reasons as claim 17.

Claims 21 and 24

Claims 21 and 24 were rejected for the same reasons as claim 17. Thus, claims 21 and 24 are believed allowable for at least the same reasons as claim 17, as discussed above.

Claims 22 and 23

Claim 22 and 23 further limits claim 21. Since claim 21 is believed allowable over the cited documents, claims 22 and 23 are also believed allowable for at least the same reasons as claim 21.

Claims 25-27

Claims 25-27 further limit claim 24. Since claim 24 is believed allowable over the cited documents, claims 25-27 are also believed allowable for at least the same reasons as claim 24.

CONCLUSION

In view of the forgoing remarks, it is respectfully submitted that this case is now in condition for allowance and such action is respectfully requested. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

No fee is believed due with this Amendment, however, should a fee be required please charge Deposit Account 50-0510. Should any extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-0510 any required fee.

Respectfully submitted,

Dated: February 3, 2009   /ido tuchman/

Ido Tuchman, Reg. No. 45,924
Law Office of Ido Tuchman
82-70 Beverly Road
Kew Gardens, NY 11415
Telephone (718) 544-1110
Facsimile (718) 374-6092